

## MEMORANDUM

**TO:** PLANNING COMMISSION  
**FROM:** Mobility Committee  
**RE:** Phase 1 Report of the Mobility Committee  
**DATE:** September 19, 2007

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### **Committee Purpose and Responsibilities**

The purpose of the Mobility Committee, as defined in Planning Commission Resolution No. 07-021 (February 7, 2007), is to revise the Transportation Chapter in the 2003 Comprehensive Plan to:

- Update of the transportation policies to bring the Comprehensive Plan into conformance with the Code of Virginia (so it includes certain mandated information regarding the extent and cost of transportation and road improvements)
- Update of the Thoroughfare Plan and transportation level of service standards based on updated demographic information
- Review technical amendments to keep the Plan consistent with other County, Regional, and State transportation documents

On May 9, 2007, the Planning Commission also included a Mass Transit component to:

- Identify how existing transit facilities and future transit projects can work together to create a more efficient transportation and transit network
- Examine how transit facilities and projects can facilitate land use planning through Mass Transit Nodes
- Examine how the county can further fund planned transit improvements identified in the current Comprehensive Plan.

### **Approach**

Upon undertaking the responsibilities, the committee started with a review of the Code of Virginia, the Prince William County Strategic Plan and the Prince William County Comprehensive Plan. The next step was to gather information from the various government and quasi-government transportation related entities operating within the county. Consistent with the Phase I task assigned to the committee by the Planning Commission, the following is a summary of the data that has been gathered by the committee and that we believe is relevant to the next phase of responsibility.

## Code of Virginia

The General Provisions for Planning, Zoning and Land Use (Code of Virginia, §15.2-2200) defines the *Legislative Intent* as:

To encourage localities to:

- Improve the public health, safety, convenience and welfare of its citizens and
- Plan for the future development of communities to the end that transportation systems be carefully planned; that:
  - The need for mineral resources and the needs of agriculture, industry and business be recognized in future growth;
  - Residential areas be provided with healthy surroundings for family life;
  - Agricultural and forestal land be preserved; and that,
  - Growth of the community consonant with the efficient and economical use of public funds.

Specifically with respect to the Comprehensive Plan, of the relevant portions of the Code define the *scope and purpose* of the Comprehensive Plan as including the following:

- The local Planning Commission shall prepare and recommend a comprehensive plan
- The Commission shall make careful and comprehensive surveys and studies of the existing conditions and trends of growth, and of the probable future requirements
- Each locality shall develop a transportation plan that designates a system of transportation infrastructure needs and recommendations that may include:
  - Designation of new and expanded transportation facilities that support the planned development and shall include, as appropriate, but not be limited to:
    - Roadways and bridges
    - Bicycle and pedestrian accommodations,
    - Railways, and public transportation facilities
    - Waterways, ports, and airports,

### **Code of Virginia (continued)**

- The plan should differentiate among a hierarchy of roads such as expressways, arterials, and collectors.
- The Virginia Department of Transportation shall, upon request, provide localities with technical assistance in preparing such transportation plan.
- The Plan shall include cost estimates of such road and transportation improvements as available from the Virginia Department of Transportation,

Section 15.2-2223.1 B. through G. of the Code requires that the Comprehensive plan to include urban development areas that incorporate principles of new urbanism and traditional neighborhood development, which may include but need not be limited to:

- Pedestrian-friendly road design, encourage connectivity between road and pedestrian networks,
- Interconnection of new local streets with existing local streets and roads,
- Preservation of natural areas,
- Mixed-use neighborhoods, including mixed housing types,
- Reduction of front and side yard building setbacks,
- Reduction of subdivision street widths and turning radii at subdivision street intersections.
- Describe any financial and other incentives for development in the urban development areas, and
- Direct state and local transportation, housing, and economic development funding to urban development areas when possible.

## Strategic Plan

In 2007, transportation is the #1 concern of citizen focus groups contributing to the new Strategic Plan. According to the Planning Director in 2005, it would cost a total of \$2.4 billion to achieve current Level of Service standards (LOS D) on interstate highway and local road "lane miles."

The Prince William County Strategic Plan is a four-year document designed to help the County achieve its long-term vision. As such, it provides crucial policy guidance for service delivery and resource allocation decisions during the Board of County Supervisors' four-year term. Each year the Board of County Supervisors reviews and approves updates to the community outcomes, strategies and objectives. The overall transportation goal is:

*The County will encourage and facilitate multi-modal transportation that gets people to jobs, improves safety, alleviates congestion, reduces travel time, supports and encourages economic development and is environmentally sensitive and pedestrian-friendly.*

Objectives and strategies include the following:

- Increase the percentage of County citizens who telecommute to 20%, as measured by the Citizen Survey.
- Achieve a rate of 55% of citizens satisfied with their ease of getting around Prince William County, as measured by the Citizen Survey.
- Reduce the number of reported pedestrian incidents from the current average of 44 per year.
- Increase total passenger trips by 20% from:
  - Bus: 1.9 Million
  - Carpool/Vanpool: 4.2 million
- Increase total commuter rail passenger trips by 40% from 3.2 million
- Explore and implement practices that result in fewer cars on the roads such as improved rail station accessibility, carpooling programs and commuter lot usage.
- Coordinate with Regional Telecommuting Programs (RTP) to increase awareness and support of telecommuting.
- Enhance local and regional access to the following County activity centers to support Economic Development:

- Innovation @ Prince William,
- Potomac Communities,
- County Government Center, and
- Western/I-66 Corridor)
- Explore innovative financing strategies such as private sector HOT lanes and other toll initiatives as used as revolving funds, tax increment financing, “special district” taxing, etc. to implement needed transportation improvements.
- Coordinate with VDOT to identify and improve access to and among the County’s activity centers (PWC Parkway, Route 28 and Route 234).
- Improve and construct transportation facilities that address congestion and safety.
  - Identify highway and transit corridors warranting improvement and expansion and preserve right of way for improvements in the future, including MetroRail extension.
  - Encourage VDOT to examine grade separated interchanges at major intersections.
  - Explore the feasibility of improving public transportation service quality by the pursuit of one or more enhancements associated with transit (e.g. providing lanes; improved HOV access, etc.).
- Promote the development of an adequate non-motorized system of bike trails, sidewalks, trails, crosswalks and pedestrian overpasses.
- Reduce vehicle trips by directly linking land use with transportation planning.
  - Encourage higher density developments around multimodal transportation nodes, with appropriate improvements.
  - Encourage the Federal government to locate work centers outside traffic congestion areas.
  - Plan and approve lower density developments in areas not targeted for transportation improvements.
  - Account for transportation impacts in locating public facilities.
- Improve transportation opportunities for those in need because of income, disability or lack of support.

## **Customer Satisfaction Survey**

The most recent Citizen Satisfaction Survey showed that the total of citizens "somewhat" or "very" satisfied with the ease of travel or getting around within Prince William County increased significantly from 39.6% in 2006 to 46.9% in 2007. At the same time, satisfaction with public transportation provided to Prince William County residents for destinations within the Prince William area decreased from 66.4 percent in 2005 to 57 percent in 2007.

The 2007 survey revealed the bottom 5 items of customer satisfaction were:

- Ease of travel around NOVA
- Coordination of development and roads
- Growth in County
- Getting around in the county
- Planning and land use

## **Comprehensive Plan, Transportation Chapter**

### **Historical Context**

The Mobility Committee reviewed early Comprehensive Plans (starting with a consultant's proposal in 1964), looking for:

- Historical context on how we got here
- How previous decisions might constrain Mobility Committee recommendations  
lessons learned
- Criteria for prioritizing proposed investments in roads and transit

It is not a new revelation that transportation infrastructure shapes the development of the county. Two key factors which caused early centers of population to develop included concentration of jobs at Quantico Marine Corps Base and Shirley Highway (now I-95).

According to the 1964 consultant's plan, "Since most of Prince William County's development is yet to come, it can be effectively guided by the planning policies which the Board of Supervisors adopts." That plan proposed a Third Beltway and the Monticello Freeway (direct route connecting Charlottesville and DC), plus a limited access highway running the length of the county, with a new bridge across the Potomac River.

Prince William's first county-wide transportation plan was adopted in 1974 (by which time the Third Beltway was dropped). In 1972, the county's General Goals for "Planning and Guiding Community Development" included:

- Create areas of concentrated activity in appropriate locations instead of suburban sprawl
- Preserve areas for agriculture or very low density residential uses in appropriate locations in the county where development is not desired.

The 5 Transportation Goals included:

- Seek to provide an integrated transportation system that utilizes public transit facilities where feasible
- Prevent the overburdening of streets and highways caused by poor coordination of community growth and road construction

Among the 22 Transportation Policies in the 1972 document were:

- Rezone land to urban or suburban uses only where the road network is, or will in the near future be, adequate for the proposed uses
- Coordinate construction of major thoroughfares with existing and proposed bus and rail transit systems
- Cooperate in regional planning for the extension of the Washington Metropolitan Area's radial and circumferential system of highways in ways that will benefit the County

A 1979 report to the Board of Supervisors said:

"The decisions that the Board of Supervisors makes on financing and constructing public improvements will control the basic pattern of growth in Prince William County." and "...the primary factors which influence growth in the County are utilities and public facilities such as water, sewer lines, and roads."

## **Current Comprehensive Plan**

The Mobility Committee also reviewed the present Transportation Chapter of the Comprehensive Plan and found that the existing Goal and Policies form the appropriate foundation for the transportation criteria of the Code of Virginia, Strategic Plan and address concerns articulated by the Citizen Satisfaction Survey. The existing Policies are as follows:

**TR-Policy 1** – Improve service levels of all transportation modes throughout the County.

**TR Policy 2** – Promote new methods of increasing the capacity of the existing transportation system in addition to expanding facilities.

**TR Policy 3** – Minimize the adverse impacts of the transportation system on the County's environmental and cultural resources.

**TR-Policy 4** – Encourage compatible and appropriate transportation facilities to guide development into areas where public facilities exist and/or to areas where new urban and suburban development has been targeted, as reflected by the Long-Range Land Use Plan Map.

**TR-Policy 5** – Encourage planned transportation networks that support designated targeted industries and major activity centers.

**TR-Policy 6** – Explore and promote innovative mechanisms of funding transportation system improvements.

**TR-Policy 7** – Promote and coordinate with area local governments, regional and federal agencies, VDOT, and the private sector on transportation issues and the development of new facilities.

**TR-Policy 8** – Apply the following action strategies for those roadways identified in chart 1 as (“\*”) where conventional road widening is not possible.

## **Countywide Transportation Model; Relationship to Thoroughfare Plan, COG and NVT A Planning**

The County Thoroughfare Plan and the data provided to COG and NVT A is based on a Countywide transportation computer model that relies upon estimates of traffic generated from existing and proposed development in the county, and projections of the amount of traffic that passes through the county whether originating from adjoining jurisdictions, or distant locations. Traffic generation from a site that is yet to be developed is based on a use interpolated from the existing comprehensive plan land use designation, the assumed future uses of the property, and the assumed developable area of the property. The estimates of developable area of an undeveloped property is at a coarse level and the a land use assigned to

a property may be a generalization of a broad range of uses that are consistent with the primary intent of a comprehensive plan land use plan designation, or may be a very specific land use depending on the judgment of the individuals inputting data for a particular property. The land uses that eventually develop, or sometimes the uses that are permitted by the existing zoning of an undeveloped property, may be significantly different from what is assumed in the model.

Traffic originating outside of the county is called pass through traffic and increases overtime are usually estimated at 2% to 3% based on past trends for traffic growth within major transportation corridors. The computer model assumes a road capacity based on the number of lanes and averages the traffic over a 24-hour period. The resulting traffic projection is known as Average Daily Trips, commonly referred to ADT. The computer model does not take into account rush hour peaks in traffic and does not analyze weekend traffic patterns. It also does not directly analyze the implications mass transit or the affects of intersections and traffic signal delays.

A Transportation Impact Analysis such as is required at the time of rezoning, and in the case of many special use permits and site plans under the new VDOT guidelines, provides a much more detailed and refined analysis usually based on a specific use of a property and actual development areas and intensity. The TIA also includes actual traffic counts, and takes into consideration the affects of turning movements at intersections and traffic signal delays. A TIA can also calculate the implications of mass transit and pedestrian accessibility. Frequently the results between the countywide model and a TIA can be significantly different, when Peak Hour traffic is taken into account. What follows from these two methods of traffic analyses are two different levels of service determinations for the same road.

Often roads identified as being designed to meet a particular level of service based on the countywide model (ADT) in the Prince William County Thoroughfare Plan operate at a different level of service as determined by the Peak Hour Analysis in a TIA. This causes confusion to the public in understanding the actual level of service for that road during the times that they experience traffic levels and also makes it difficult to assess the causes of traffic delays. Because of the differences between the countywide model and the requirements for a TIA, there could be a instances where a road meeting a level of service C based on the ADT, is actually functioning at a level of service F during peak hours. Therefore, the concern for the Mobility Committee is that county resident expectations of adequate traffic flow are not being met when a road said to be designed at level of service C in the Comprehensive Plan will actually function at level of service F at intersections during peak usage hours.

In Phase 2, the Mobility Committee will look closely at the action strategies to determine how implementation of those policies could be enhanced and brought into closer alignment with the Code of Virginia, the Strategic Plan and Regional Planning and transportation plans of adjoining jurisdictions with whom Prince William shares the transportation network.

## **Federal, Regional, and State Transportation Planning, Funding, and Oversight**

The Virginia Department of Transportation has direct responsibility for the construction of roads in Prince William County and Prince William County, with State approval, has constructed a number of roads through the issuance of special road bonds that allow the county to borrow money needed for local road improvements and pay back the cost over time. However, there are a number of entities that have authority over the funding and planning of transportation infrastructure in the county. These include Federal, State and Regional authorities.

### **Federal Funding**

The Federal government requires regional planning as a prerequisite to funding of transportation infrastructure through several federal requirements related to TEA-21 and SAFETEA-LU (Safe, Accountable, Flexible, Efficient Transportation Equity Act: Legacy for Users), the federal transportation authorization bill passed in 2005. SAFETEA-LU established new requirements and reaffirmed existing rules for metropolitan planning organizations (MPO) in developing long-range transportation plans. The Council of Governments serves as the MPO that oversees transportation infrastructure for Prince William County.

### **Council of Governments**

The Washington Metropolitan Council of Governments (COG) is the designated MPO for our area. COG appointed the Transportation Planning Board (TPB) to review the transportation plans and land use plans of the participant jurisdictions, to assure compliance with all of the SAFETEA-LU requirements. The TPB is made up of representatives of the local governments that are members of COG. The participating local jurisdictions submit their transportation plan proposals to the TPB for review by the other local jurisdictions and COG staff.

TPB developed the Constrained Long Range Plan (CLRP) for transportation projects in the Washington Metropolitan area. These projects were planned based on assumed financial constraints on available public funding and the following indicators:

- a) Metro Region now has approximately 5 million people and 3 million jobs
- b) 1.9 million residents are expected to be added to the region by 2030
- c) 1.3 million jobs are expected to be added to the region by 2030
- d) The current highway system will not be adequate to accommodate future travel demand
- e) Lane miles of congestion is expected to increase 119% by 2030
- f) Job growth is outpacing residential growth in the region

No locations in Prince William County meet COG’s criteria for mixed-use or employment centers, but the county does contain one suburban employment center and four emerging employment centers.

The TPB analyzed the 6 following scenarios for planning for growth based on current 2030 projections:

Planning Scenarios	Impact on Driving	Congestion	Transit Use
More Households	Reduce 1.3%	Reduce 6.4%	Increase 15.9%
Households In	Reduce .9%	Reduce 6.1%	Increase 5.3%
Jobs Out	Reduce .1%	Reduce 1.4%	Reduce 2.4%
Region Undivided	Reduce .8%	Reduce 2.7%	Increase 8.8%
TOD	Reduce 1%	Reduce 4.6%	Increase 7.9%

**Constrained Long-Range Plan (CLRP)**

The CLRP is one of the main long-range planning tools for the region. It is developed cooperatively by governmental bodies and agencies represented on the National Capitol Region Transportation Planning Board (TPB). It consists of a financially constrained, 25-year transportation plan that contains hundreds of projects. These projects range from landscaping to billion dollar highway and transit plans.

The TPB establishes a priority area for submissions based on the benefits of transportation management, safety and security. The TPB vision is the main tool for prioritizing these projects.

The eight vision goals are:

- 1) Reasonable access at reasonable cost;
- 2) Healthy regional core and dynamic regional activity centers;
- 3) Priority to management, performance, maintenance and safety of all modes and facilities;
- 4) Best available technology;
- 5) Protection of the region’s natural environmental quality, cultural and historic resources and communities;

- 6) Coordination of transportation and land use planning;
- 7) Enhancement of funding mechanism(s); and
- 8) Support for international inter-regional travel and commerce.

The CLRP is divided into seven sections which include: Selected Project Highlights, Major Highway Improvements, Major Transit & HOV Improvements, Major Studies, Major Bicycle and Pedestrian Projects, Transportation Improvement Program and Annual Listing of Federal Funding Obligations. The CLRP is evaluated by forecasting such factors as metropolitan growth to land use to congestion. Based on these factors, the plan is updated annually.

**Keypoints:** The CLRP is a regional long range plan for the metropolitan area. Based on the fact that it is financially constrained and extends 25 years into the future, the CLRP is only as good as the cost estimates and future projections. In times of increasing costs and limited budgets, the CLRP may include more projects than are fiscally possible, even in 25 years.

#### **State Funding: Commonwealth Transportation Board**

The Commonwealth Transportation Board, through the Virginia Department of Transportation (VDOT), provides primary funding and oversight of roads in Virginia. VDOT and VDOT projects are funded through State taxes along with Federal Aide primary roads and interstate highways.

The primary road plan document prepared by VDOT is the 6-Year Road Plan. This plan identifies funding for projects based on long expected revenues. Roads in the 6-Year plan may have partial funding for Engineering study, followed by engineering and design, right-of-way acquisition and ultimately construction.

Funding for future construction of new projects will be constrained, as existing operations and maintenance costs consume an ever-larger share of the available state transportation budget.

HB3202 permits requires Prince William to establish an Urban Development Area: "§ 15.2-2223.1 The comprehensive plan shall designate one or more urban development areas sufficient to meet projected residential and commercial growth in the locality for an ensuing period of at least 10 but not more than 20 years, which may include phasing of development within the urban development areas." and states " To the extent possible, state and local transportation, housing, and economic development funding shall be directed to the urban development area."

## Six Year Plan of Commonwealth Transportation Board

### General

- The Six-Year Improvement Program (SYIP) reflects \$11 billion in funding over six years – an increase of \$3.1 billion for public transportation, rail, and highway projects throughout the Commonwealth.
- The Program reflects the Commonwealth Transportation Board’s (CTB) commitment to the safe use of the network and keeping the existing system performing whether it be with transit service or pavement reconstruction
- The Program reflects the CTB’s commitment to taking additional steps to deliver surface transportation solutions including multimodal planning, corridor priorities, access management, and systems operations
- For the first time, the Program includes a six-year highway maintenance and operations plan that includes \$10.5 billion in funding.

### **FY 2008 CTB Six Year Program (allocations in millions)**

<b>District</b>	<b>VDOT Maintenance</b>	<b>Locality Payments</b>	<b>Rail &amp; Public Transportation</b>	<b>Highway Construction</b>
Bristol	\$137.1	\$ 11.8	\$ 4.8	\$ 97.4
Culpeper	73.6	6.3	8.5	53.5
Fred'burg	82.8	2.1	12.4	57.9
Hampton Rds	155.3	140.7	45.9	215.4
Lynchburg	77.1	20.8	7.5	51.2
NoVA	187.6	33.2	217.6	410.2
Richmond	172.6	62.1	23.9	137.7
Salem	132.1	30.2	11.9	93.9
Staunton	110.8	18.8	25.8	86.5
Statewide	128.7			157.8
<b>Total</b>	<b>\$1,257.6</b>	<b>\$325.7</b>	<b>\$358.3</b>	<b>\$1,361.5</b>

Note: Not all funding in table is shown in SYIP. DRPT funding includes capital projects. Construction funding does not include funds distributed by others, subject to negotiation, or awaiting separate CTB action.

### **Six Year Program Funding Summary**

	FY 2008	FY 08-13
Public Transportation	\$319.1 million	\$2.0 billion
Rail	\$102.6 million	\$322 million
Highway Maintenance	\$1.58 billion	\$10.5 billion
Highway Construction*	\$1.63 billion	\$8.7 billion

#### **Public Transportation**

- Over the next six years, public transportation funding will increase by 41% to \$2 billion
- The state share of transit capital is 66% in FY 2008 vs. 22% in FY 2007
- Key transit initiatives supported by SYIP funding in northern Virginia include:
  - Dulles Corridor Metrorail Project: \$2.4 - \$2.7 billion
  - VRE Rolling Stock: \$15 million
  - WMATA Rolling Stock: \$20 million
- Increased transit operating funding from HB 3202 does not begin until FY 2009

#### **Rail**

- Over the next six years, rail funding will increase by 68% to \$322 million

#### **Highway**

- 206 interstate and primary projects will be in construction during the next six years compared to 48 planned a year ago. A total of 548 projects will go to construction over the period (including secondary roadways).
- Balanced federal/state funding program – 49% federally funded compared to 71% a year ago
- Funding focused on advancing projects, safety and rehabilitation, bottlenecks, freight movement, operations, and access management/land use
  - \$58 million for congestion management

- \$77 million for operational improvements
- \$56 million for access management
- Majority of highway funding is dedicated to advancing existing projects

### **Transportation Plan Summaries for Adjoining Jurisdictions**

The following are summaries of the Transportation planning taken from Comprehensive Plans of adjoining jurisdictions including the surrounding counties and the major incorporated areas within Prince William County.

#### **Fauquier County Transportation Plan**

Fauquier County, our neighbor to the North and West developed/updated their comprehensive plan for transportation in 2005. Three key surface roads impact Prince William County primarily in the Gainesville and Brentsville Districts. VA 28, US 29 and I-66 all provide significant surface traffic into and out of Prince William County either as feeder traffic to our businesses or as through traffic to Fairfax, Arlington, Alexandria and The District. Indirectly Rte. 50 in Northern Fauquier impacts Prince William but strategic efforts on the part of Fauquier would have little actual impact on Prince William County.

#### **General Approach:**

Fauquier seeks to establish a controlled growth scenario with regard to its transportation development. This controlled growth promotes a “clustered and compact form of growth.” Fauquier uses VDOT as the planning agent for transportation efforts in the County and has given VDOT the strategic mandate to provide a “well planned highway and multimodal transportation system, having design capacities that will not cause excessive traffic congestion and should preserve the scenic, natural and historic qualities of the County.” The general approach is also to minimize access points to the rural freeway (I-66) and other major collectors (VA-28/US-29). In addition the general approach is to divert local traffic away from the collectors, seeking to make access to the collectors a purposeful trip and discouraging use of the collectors as a means to move within the County. The general approach does seek to increase capacity of the collectors and throughways, but strategically this is not a priority. In general the plan seeks to maximize commuter and express bus service and development of Virginia Railway Express commuter rail into the County.

#### **EXISTING CONDITIONS:**

**Rail:** There is no commuter rail in the County, residents seeking commuter rail use the Virginia Railway Express (VRE) stations Broad Run, Manassas City or Manassas Park in Prince William County.

**Air:** Warrenton-Fauquier airport in Midland is located in Fauquier County and is a designated traffic reliever airport and is seen as an industrial support complex.

**Commuter Services:** There is rideshare and vanpool service available through commercial vendors. There are park and ride lots along access points to I-66, VA-28, US-29. Five of these are VDOT lots.

Design policies for all modes are in place and are consistent with traditional modeling for access and traffic flow.

#### TRANSPORTATION PLAN:

The plan is divided into four stages with little attention being placed on roads entering and existing Prince William County. Much of the effort is focused on improving intra-county interchanges and widening key roads within the county to improve traffic flow within the County. Stages 1 and 2 focus primarily on signaling and interchange improvements, Stage 3 is an extension of previous stages based on financing available and stage 4 seeks improvements in the collectors and throughways into Prince William County. Stage 4 also begins to address the potential development of VRE service.

The VRE approach begins in stage 4 with implementation of express bus service to existing access points in Prince William County. At best this would reduce some parking congestion at the stations. Stage 4 includes a further suggestion to extend VRE service from the Broad Run line to Remington, Bealeton and a to-be-determined intermediate station. The VRE strategic plan is relatively silent on this approach.

Airport access and expansion is also foreseen and is indeed underway. As a reliever airport there are certain capacity requirements that must be met. The airport is in renovation to meet current and future demand and improved access roads are being developed.

Bicycle and Pedestrian Routes are considered in the plan but are seen as a byproduct of traffic, road planning, and multi-modal plans. This non-motorized segment is referred to in the plan but it is not included.

#### OVERALL TRANSPORTATION STRATEGY:

The overarching strategy for Fauquier County is one of “Traffic Calming.” Specifically the plan supports a citizen demand for lower speeds, scenic preservation and historic respect. Six objectives of the plan are:

- Achieve slower, safer speeds for motor vehicles and require drivers to observe posted speeds;
- Reduce collision frequency and severity;
- Improve the real and perceived safety for non-motorized users of the street;
- Provide more greenery (e.g., trees, shrubs, and associated materials);

- Increase access to land uses for all modes of transportation; and
- Reduce cut-through motorized vehicle traffic.

Specifically identified calming techniques are speed bumps, close radius curves, traffic circles, narrow pavement widths, and streetscapes.

Lastly the plan sets out 8 specific priorities which make evident that improvements are focused within the borders of the county and not focused on regional efforts:

**Priority 1:** Signalization at the U.S. 15/29 and Route 215 Intersection and Route 215 improvements

**Priority 2:** VDOT U.S. Route 17 Interchange Project at Opal. Also advise the Commonwealth Transportation Board (CTB) and VDOT that this project should recognize the need to later extend U.S. Route 17, making sure it is located in coordination with any U.S. 15/29 corridor alignment changes in Prince William County.

**Priority 3:** VDOT U.S. Route 17 Connector Project

**Priority 4:** VDOT VA Route 28 Project. Request that the CTB have VDOT fund a study to develop plans to upgrade intersections along the VA Route 28 corridor between U.S. Route 29/15 and a point east of Liberty High School, i.e. the eastern edge of the Bealeton Service District. These are described as “safety” improvements within the Calverton, Catlett and Midland Village Service District Plans.

**Priority 5:** Redesign of the I-66 Interchange at Route 17

**Priority 6:** Land Development Regulations. Update roadway definitions and resolve the differences between VDOT subdivision standards and County Subdivision and Zoning Ordinance standards.

**Priority 7:** Fauquier County/VDOT Low Cost Improvement Program. Perform AM and PM peak hour turning movement counts for specific timeframes (e.g., every 3- years) or use available data from Traffic Impact Studies to establish updated and representative AM and PM peak hour volumes and levels of service for designated locations in Bealeton, Marshall, Opal, and Remington.

**Priority 8:** Fauquier County Traffic Demand Modeling Program Bealeton, Marshall, Opal and Remington are the test Service Districts.

## **Stafford County**

The purpose of the Stafford County Transportation Plan is to provide a safe, efficient, and comprehensive transportation system for the movement of people and goods within as well as through Stafford County. The overall road network in the Plan proposed by the County “meets the projected traffic demand placed on it by future growth and development under the Land Use Plan” – with the statement that the Stafford County level of service goal is LOS C.

The Plan not only discusses new roads, but also “emphasizes the expansion and improvement of existing roadway facilities” to supplement the strategic construction of new roadways. Transportation demand management (TDM) strategies are also supported, as are the submission and implementation of transportation impact statements.

A number of roads were shown as important roadways from the standpoint of existing and future level of service issues, including the following roads: Garrisonville Road (SR-610) near Mine Road (SR-684) and near Shelton Shop Road (SR-648); and the Warrenton Road (US-17)/Butler Road (SR-212)/White Oak Road (SR-218) corridor.

The Plan outlines two new major transportation facilities that will be provided: a new interchange on I-95 at Mountain View Road, and an Outer Connector Road connecting parts in Spotsylvania County to the southern areas of Stafford County. Other areas of concern, such as an alternate route for traffic traveling along Garrisonville Road towards I-95, and an alternative route for traffic traveling along the Warrenton Road/Butler Road/White Oak Road corridor, were also discussed but no definitive improvement alternatives are shown in the Plan. Additionally, traffic related issues associated with Eustace Road (SR-751) were also discussed, but the land use character surrounding the roadway prevents a widening based solution to occur – as such, the Plan calls for trail related improvements in this area.

The following transportation goals are outlined in the Stafford County Transportation Plan:

- Goal One: Achieve a balanced transportation network that implements the County’s adopted Land Use Plan and allows roadways within the County to achieve a level of service that promotes safe and efficient operation.
- Goal Two: Provide transportation facilities that promote economic development within the County.
- Goal Three: Design and construct transportation facilities that are compatible with environmental, cultural, and historic resources.
- Goal Four: Promote alternative modes of transportation to more effectively address traffic demands on the transportation network, including support of regional transportation programs.
- Goal Five: Plan future transportation facilities that are implementable from a physical, fiscal, and political standpoint.

Other areas the Transportation Plan covers are:

- Transportation Impact Statement Guidelines
- Transportation Demand Management Strategies (including carpool/vanpool, park and ride lots, buses, commuter rail, telecommuting, and other initiatives)
- Transportation System Management
- The Stafford Regional Airport
- Stafford's Transportation Network Improvement Projects

Stafford County also does have Impact Fees, which are collected in two areas: a large area of the western end of the County (Area A), and a smaller area in the southeastern end of the County (Area E4). Because there are more expensive improvements (estimated cost \$7.25 million) and less land area in the E4 area, the respective fees are much higher than they are in Area A (estimated cost of improvements are \$6.16 million).

### **Loudoun County**

The Loudoun County Transportation Plan is currently being updated. The final plan is expected to go to the Loudoun County Board of Supervisors in the spring.

**Roads** – The Loudoun County Plan shows three roads connecting directly into Prince William – Route 15, North Star Blvd (Route 234 Bypass North), and Route 606 Extension (Gum Springs Road). These three roads are generally consistent with the Prince William Plan, although Loudoun County's plan shows the Route 234 Bypass North as six lanes, while Prince William shows the road as four lanes. Loudoun's Plan also shows the Tri-County Parkway consistent with Prince William County's alignment.

**Transit** – Metrorail is planned to extend along the Dulles Corridor to Loudoun County. Loudoun County currently operates both a commuter bus and a local bus service.

**Para-transit** – There is a carpooling service. The County currently operates a system of leased and donated park and ride spaces. The County is currently designing and building its first county-owned park and ride lot.

**Non-motorized facilities** – Loudoun County has a number of policies to encourage bike and pedestrian facilities, but it is not clear if such facilities would be located along the intra-county connections into Prince William.

### **City of Manassas Park**

The transportation plan for Manassas Park stresses basics:

- Adding bike lanes to Rt. 28
- Improving traffic on Rt. 28 and Euclid Avenue
- Improving trail/sidewalk access to Virginia Railway Express (VRE) station
- Actively supporting Rt. 28 Bypass (Godwin Drive Extended)
- Acknowledging limited parking for VRE station

Manassas Park is clearly dependent on neighboring governments if they are going to improve their major transportation trouble spot, Rt. 28. The Rt. 28 Bypass, planned and partially constructed in Prince William County and the City of Manassas as Godwin Drive, remains a critical piece of their plan. VDOT Planning incorporated this long planned bypass into their analysis of possible routes for a Tri-County Connector, redefining its purpose from a by-pass for existing Rte. 28 to a primary connector route to employment southwest of Dulles Airport. The Commonwealth Transportation Board (CTB) later concluded the alignment, the right-of-way for which has been secured in Prince County, did not serve as the best alignment for a connection to that area. Manassas Park's need for the Rte. 28 as a reliever of traffic through its jurisdiction is independent of the regional need for a western Tri-County Connector. Prince William and Fairfax Counties will need to support the Rte. 28 Bypass route along Godwin Drive, Flat Branch and a new connection with roads in Fairfax County, if Manassas Park is to see relief on Rt. 28.

The Manassas Park VRE station is a key asset for Manassas Park and the region surrounding Manassas Park, including Prince William and Fairfax Counties. Multi-modal access to VRE is supported by the Manassas Park transportation plan. This access to VRE will benefit the surrounding Prince William and Fairfax Counties as well. Rt. 28 improvements to include bike lanes and mass transit upgrades are also important to both Manassas Park and the surrounding Prince William and Fairfax Counties.

### **City of Manassas**

The Manassas City transportation plan benefits from being a relatively "self sufficient" business and residential community. Highlights of the Manassas Transportation Plan include:

- Acknowledging Downtown Sector Plan survey of citizens concerns over thru traffic, poor pedestrian access, lack of traffic calming, lack of adequate tourist/commuter parking, and noisy Rt. 28 in downtown area.
- "Pedestrian-oriented" downtown streets

- “Traffic calming” on downtown streets
- Shuttle bus system to downtown area from area major corporate businesses
- Acknowledging the “wider sidewalks, trail development, and better access through the redesign of crosswalks and the addition of pedestrian bridges where needed. Grant Avenue was cited as an example of a thoroughfare that needed to be made more walkable and more attractive”
- Conversion of select streets to one-way allowing increased pedestrian use as a result of narrowing the traffic lane to one lane
- Improvement of through traffic to include the Tri-County Parkway Comprehensive Plan route to the east
- Rt. 28 improvements are cited as necessary
- Parking access and availability is critically lacking
- Bike trail master plan needs funding appropriated to facilitate completion
- Acknowledging the need to encourage residential development for pedestrian access.

Manassas is dependent on neighboring Prince William and Fairfax Counties for support in developing a network of multi-modal transit connections to the city and to VRE. Neighboring Prince William and Fairfax Counties contribute to traffic problems as source and destination for commuters, relieving this is critical to the development of their downtown area. The Rt. 28 Bypass is a key piece to the solution as was the completion of the Rt. 234 Bypass. Completion of the Rt. 234 Bypass made measurable improvements to traffic flow within Manassas City

### **Regional Transportation Providers**

The Mobility Committee also reviewed the plans of the regional entities involved in the providing transportation infrastructure to county residents. The following is a summary of key elements of those plans.

## **Potomac-Rappahannock Transportation Commission, Bus Service and HOV (Omni-Ride, Metro-Direct, Omni-Link, and Omni-Match)**

Potomac Rappahannock Transportation Commission (PRTC) oversees mass transit in the county, primarily through rail and bus services, but also promotes a ride sharing.

- PRTC has a fleet of 101 buses that support three program areas that provide bus service to area residents. These include: *OmniRide* - Commuter bus service to employment areas outside of the county, *Metro-Direct* - Bus service to Metro rail stations at Franconia-Springfield and West Falls Church, and *OmniLink* - Bus transit with stops across Prince William, Manassas and Manassas Park.
- PRTC also operates the *Omnimatch* commuter assistance program for creating vanpools and carpools
- Less than 1/3 of costs for operating PRTC's bus services are generated directly by riders paying fares, and the remainder (plus 100% of capital expense for equipment purchases) is covered by Federal/State/Local government payments. Like other PRTC member jurisdictions, Prince William levies a 2% sales tax on gas sold in the county. That revenue is used for PRTC services (rail and bus). The county also supplements the 2% tax with general fund appropriations and grants.
- PRTC complies with Americans with Disabilities Act (ADA) service requirements through a "demand responsive" rather than "fixed route/complementary para-transit" approach, which reduces costs per ADA-related trip substantially.
- Service Frequency for OmniRide/Metro-Direct commuters at peak hours is rated at Levels D-E, depending upon the route, based on the standards in the Transportation Research Board's Transit Capacity and Quality of Service Manual. Level D is described as "Service unattractive to choice riders" because waits or "headway" between buses ranges from 21-60 minutes. At off-peak times (mid-day), the frequency rating is a lower F rating ("service unattractive to all riders"), because there is only one mid-day trip. For OmniLink local trips, Service Frequency is rated at Levels D-E, meaning the wait between buses on various routes will be at least 21 minutes.
- For OmniRide/Metro-Direct commuters, Service Coverage is Level E, meaning between 50%-59% of the higher-density areas are served. Higher-Density areas are defined as Employment sites with  $\geq 50$  jobs/acre and residential areas with  $\geq 1.4$  dwellings/acre. For OmniLink, Service Coverage is rated at Level F. OmniLink serves less than 50% of employment sites with  $\geq 1.3$  jobs/acre as destinations, or residential areas with  $\geq 1.6$  households/acre. (Note: PRTC serves areas with lower population/employment density than is recommended in the manual. The Transit Capacity and Quality of Service Manual defines "Transit Supportive Areas" as those with 4 jobs/acre or more, or 3 dwellings/acre or more.

- PRTC's draft strategic plan proposes four alternatives to service base on quality and minimum ridership thresholds, with key factor being fiscal resources required to implement each alternative. Current draft of new strategic plan recommends Service Level #4, with service frequency no less than once every 45 minutes in peak periods, additional routes, and expanded hours of service. Implementation of Service Level #4, starting in 2010, is estimated to cost an additional \$113 million in the 25 years between FY06-30. That alternative would create the largest number of riders between the three financially plausible alternatives, and attract the highest number of "choice" riders (those that would otherwise drive, adding to congestion, air pollution, and energy consumption). Some of the costs are proposed to be funded through a new bus proffer for new development. to be reviewed/revised by Dave.

**Keypoints:** The PRTC is one of only a few mass transit options in PWC. It provides intra- as well as inter-county transportation and is a key link to metro rail. The level of service, both frequency and coverage, remain closely tied to the level of subsidies PRTC receives from Federal, state, and local governments.

### **Virginia Railway Express Commuter Rail Service**

Organizationally, the Virginia Railway Express (VRE) is a joint project undertaken by two commissions – the Northern Virginia Transportation Commission (NVTC) and the Potomac and Rappahannock Transportation Commission. Under the Master Agreement, NVTC and PRTC jointly own and operate the VRE. Members of both entities sit on the VRE Operations Board, which governs VRE. Daily operations and capital projects are financed from a combination of federal, state and local grants, and through the sale of tickets.

Currently, VRE operates 32 trains per weekday, primarily in the morning and evening commuter peak periods. VRE now operates 32 trains carrying approximately 15,500 daily riders on a service that was designed and sized for 10,000 riders a day. VRE indicates that its ridership has been steadily increasing at an average rate of about 16 percent per year over the past four years placing VRE near the top of all U.S. commuter railroads in terms of the rate of ridership growth. A total of over 3 million passenger trips per year are made on the VRE. Ridership demand continues to grow, despite fare increases and increasingly crowded trains and station parking lots.

Amtrak operates the VRE trains over its own lines in Washington Terminal and over the existing lines of CSX Transportation, Inc. (CSXT) and Norfolk Southern Corporation (NS) pursuant to individual operating and access agreements with the freight railroads. An Operating Agreement between VRE and Amtrak covers the use of Amtrak operating crews, facilities, and maintenance of equipment employees.

In the typical weekday peak period, many trains and parking lots are full. According to VRE, their performance measures of ridership, customer satisfaction, and on time performance indicate a successful operation, yet nine of the 13 station parking lots are full, and ten of the 24 peak trains are crowded to capacity or beyond. Core system requirements are increasing. Station maintenance costs are rising as the system ages. There is an immediate need for new bi-level railcars and locomotives. Parking is inadequate, whether it is parking for commuters at the station

or parking for the equipment sets in Washington, DC. There is interest in extension of VRE service along the I-66 corridor to Gainesville and Haymarket.

VRE projects an increase in ridership by 2025 based on market evaluations and considers doubling ridership a reasonable target for VRE's future planning. VRE identifies three possible strategies which could be followed to support this potential growth – Targeted Growth, Aggressive Growth and Deferred Growth.

A realistic and achievable strategy for VRE is to proceed with the short term investments required to support the Deferred Growth Scenario, while actively pursuing increased public funding for beneficial growth projects and seeking partnerships with the freight railroads, other passenger rail interests, the adjoining counties, and station area developers to minimize the overall funding support for VRE that will be necessary from its local member jurisdictions.

VRE's strategic plan recommends that VRE pursue a strategy that works towards a ridership goal of 26,000 – 30,000 trips per day. This would require investments to improve the core VRE network and expand its capacity to carry VRE riders, acquire additional rolling stock and locomotives, construct storage and maintenance facilities, improve parking and station access, pursue expansion to Gainesville and Spotsylvania, and explore opportunities for partnerships, including transit oriented development (Land use). The principal short-term needs for VRE to keep pace with its ridership growth are in the areas of station parking, rolling stock and train storage, and maintenance capacity.

These basic needs must be met before serious consideration can be given to increasing the quantity of VRE train service or extending VRE service beyond its current service limits. Capital investments must be made in each of these core areas together, as part of a coordinated program, in order for VRE to continue to deliver a high-quality commuter rail service. Under-investing in any one facet of the core network would create a capacity constraint that could render other elements of the system less than fully usable. The VRE strategic plan details specific actions in these general categories.

The VRE Strategic Plan also includes recommendations with respect to long range investment in core network facilities through 2025, to support VRE ridership in the range of 25,000 to 40,000 daily trips. The investments impacting our county include:

- The addition of 6,000 to 8,000 parking spaces on the Fredericksburg Line and 6,000 to 9,000 spaces on the Manassas Line by 2025.
- Capital improvements at each of the four major CBD stations (lengthening of existing platforms, improvements to accommodate longer trains).
- Construction of an intermediate maintenance facility, as well as sufficient yard storage space to accommodate the increased fleet size.
- VRE will also need to invest in fleet maintenance facilities.

### Potential Network Expansion

The growth of the northern Virginia suburbs and the availability of affordable new housing are pushing the demand for commuter rail service beyond the boundaries of the current VRE network. The Strategic Plan study analyzed potential extensions of VRE service on existing rail freight lines in Virginia – southward from Fredericksburg into Spotsylvania County, southwestward from Manassas into Fauquier County, and westward from Manassas to Gainesville and Haymarket. The table below summarizes the costs and potential ridership associated with each expansion route.

<b>POTENTIAL VRE EXPANSION CAPITAL COST, INCLUDING FLEET (\$MM '03, PROJECTED RIDERSHIP 2025)</b>		
<b>Gainesville/Haymarket</b>	\$107.9 – \$137.9	3,100 – 5,500
<b>Fauquier</b>	\$40.6 – \$60.6	1,100 – 2,000
<b>Spotsylvania</b>	\$16.6 – \$19.1	1,000 – 1,500

VRE describes these options as not mutually-exclusive expansion options. Stating that the long-range growth projections and strong station-area development potential in each of these corridors support the eventual extension of VRE service.

The Strategic Plan has identified the following priorities:

1. Gainesville or Haymarket – very strong current growth and station development opportunities, strong ridership potential, able to be implemented within VRE Master Agreement. Service could be implemented in stages to save initial capital costs and dovetail with a major State highway grade crossing elimination project, starting with an interim 8-mile extension to Gainesville, followed ultimately by a 3 mile extension to Haymarket.
2. Spotsylvania – relatively low incremental cost since VRE trains already use a yard facility in Spotsylvania, strong current demand for VRE service, provides relief for overcrowded Fredericksburg station.
3. Fauquier – lesser current demand, more limited land development potential, longer-range opportunity to implement in tandem with improved intercity passenger service on the same route.

Many factors external to VRE and beyond its control also can affect both the regional transportation network as well as land development patterns in the corridors served by VRE.

### **Washington Metropolitan Area Transportation Authority (Metrorail)**

- WMATA operates the nation's 2<sup>nd</sup> largest rail and 5<sup>th</sup> largest bus system in the nation – system expansions are funded by the host jurisdiction. WMATA manages a \$1.1 billion dollar operating budget drawn from a variety of federal, state, and local sources (no dedicated source of funding).
- Although current ridership grew by 41% between 1996-2006 (3.5% annually), the system is transitioning from construction to an operations focus.
- Ridership growth is being driven by jobs and housing in downtown, DC; suburban development; tourism; baseball and other entertainment venues; and high gasoline prices.
- The ridership forecast for 2030 is 970,000 riders compared to 2006 ridership of 206,000 in 2006 (371% increase). Planning for growth is on-going for selected corridors – the Springfield line does not currently appear to be the subject of these studies.
- WMATA discussed the value of Rapid Bus Technology, Street Car/Light Rail Technology, and Heavy Rail options from the Franconia-Springfield station (particularly given the possible use in the HOV/HOT lanes).
- The on-going Dulles Corridor Metrorail Extension Project will be 23 miles long, include 11 stations, and cost \$5 billion. The *Fort Belvoir Fixed Guideway Transit Study* is considering light and heavy rail extensions from Springfield to Fort Belvoir and dedicated HOV ramps at a cost of \$500 million.

### **Manassas Regional General Aviation Airport Plan**

Manassas Regional General Aviation Airport is the only local airport existing within Prince William County. It is located primarily in the City of Manassas but is jointly owned by Manassas and Prince William County and serves the general aviation needs of the area surrounding Prince William County. Its mission is to serve as a gateway for businesses coming to or from the area.

The airport is comprised of 888 acres, 120 of which are located within Prince William County. There are 2 runways and a Federal Aviation Administration (FAA) tower located on-site. As of January 2007, there were 431 aircraft recorded as being based at the airport, earning it recognition as the busiest general aviation airport in the Commonwealth of Virginia in terms of based aircraft. It is ranked 4<sup>th</sup> in the Commonwealth for total aircraft operations, including Air Carrier airports, and several Fortune 500 companies use the airport.

Manassas Regional Airport operates based on an interjurisdictional agreement between the City of Manassas and Prince William County. The airport's challenges for the future include

expanding their facility in order to maintain their economic benefit to the County while working to avoid encroachment from surrounding development.

The airport is an important mobility asset and surface access to the airport is important as well. Arterial highway access to the airport is from Nokesville Road and the Rte. 234 Bypass. A Norfolk-Southern railroad passes through the northern end of the airport property and a Virginia Railway Express Commuter rail station is located at the northern edge of the property.

### **Alternative Transportation Strategies and Concepts**

#### **Ferry Boat Feasibility Study**

The Virginia Department of Transportation conducted a study to determine the market potential for ferry service along the Potomac River with potential docking sites located on the Occoquan River, Cherry Hill peninsula, Quantico, and Neabsco Creek to points north in DC.

- The study suggested that 29% of the 600 interviewed would use such a service daily, 87% be willing to pay \$6 or more (one-way) so long as there is comparable travel times (68% identified this concern in the survey).
- Seventy percent (70%) of those interviewed would expect 30 minute departure times and fifty percent (50%) suggested connections with other transit connections very important. Forty-one percent (41%) of people interviewed are likely to use the ferry if it is located in Prince William County.
- The most significant issues to be addressed to determine its feasibility include travel times (versus HOV and other transit options), population at the origin point, employment opportunities at destination, and termini (waterway) access rights. The study recommended Woodbridge and the Navy Yard as a prime OD pair despite that Woodbridge capital costs were the highest (\$9 million). Given the annual expenses, this option will require an \$18 per passenger subsidy given 45-minute expected ride duration.
- The study concluded that the private sector should continue to pursue capital funding with state assistance for a high-speed ferry service.
- In addition to drawing a significant number of SOV, HOV, and mass transit riders to this new alternative mode, the high-speed ferry service also offers significant tourism benefits to the operator and homeland security benefits to the national and state governments.

## **Bus Rapid Transit**

Bus Rapid Transit (BRT) combines the best features of rail with the flexibility and cost advantages of roadway transit. BRT has been successfully implemented in Australia, South America and Europe and is now gaining popularity in North America. For example, new BRT lines have opened in Los Angeles, Boston, and Oregon, and new systems are being planned or built in Cleveland, San Francisco, New York, Houston, Seattle, and many other cities.

Communities need rapid transit to reduce congestion, improve air quality, and provide mobility options, particularly for underserved populations. Heavy and light rail are popular options, but they are expensive. Traditional bus service is flexible and inexpensive, but it is often slow and saddled with a negative public image. BRT is not a 'service provider' in itself, such as PRTC and VRE but rather BRT is a "design standard" that is necessary to achieve in order to draw high acceptance of from potential transit users. BRT is faster to implement and less costly due to its use of existing right-of-way (ROW) but to justify that use of existing ROW BRT must demonstrate predictable reduction in volume in the remaining lanes. If BRT is designed to fail, then the key advantage is lost because that failure will not improve traffic conditions on the remaining vehicle lanes. It is critical to design with the consumer needs being the highest importance, a "poor man's BRT" is designed to fail because the perceptions problems of transit are not overcome with that approach.

For BRT to be successful, the system must provide a high quality, high capacity rapid transit system that improves upon tradition rail transit systems. Vehicles travel in exclusive lanes, thus avoiding traffic. Passengers walk to comfortable stations, pay their fare in the station, and board through multiple doors like a train. Service is very frequent and often passengers can choose between express and local routes, an option not available on most train systems. Vehicles can be hybrid electric or CNG and in the future may be powered by zero-emission fuel cells.

The following are major components of BRT, and the best systems have most or all of these features:

*Exclusive Lanes* greatly increase speed and reduce travel time, thus making BRT more competitive with car travel. Unlike rail, transit vehicles can leave the exclusive lane to take passengers directly to their destination. Exclusive lanes also can provide emergency vehicles with congestion-free routes. Exclusive lanes have been built next to highways, in the medians of arterial streets, in abandoned rail corridors, and in tunnels.

Exclusive lanes help ensure that BRT can meet demand in almost any US corridor. There are several BRT systems that carry more than 10,000 passengers per hour in the peak direction.

Most US light rail systems carry between 1,500 and 3,000 passengers per hour in the peak direction.

- Stations come in many shapes and sizes, both on the surface and underground. The best have a number of common features.
  - First, they provide a seamless, sheltered connection to transit vehicles. Vehicle doors line up precisely with the station, enabling fast unloading and boarding. This reduces the time that the vehicle must wait in the station (known as “dwell” time) and makes the overall trip faster and more pleasant.
  - Second, the best stations ensure that passengers pay their fare before entering the station, rather than on the vehicle. In many recent systems, fare collection is accomplished with a smart-card reader and a turnstile at the station entrance.
  - Third, the best stations provide passengers with options to access the station without using a car. These options include feeder bus systems and pedestrian and bicycle access.
  - Finally, the best stations serve as focal points for economic development.
- BRT vehicles can have a variety of characteristics and attributes.
  - multiple doors for entry and exit and are designed to “dock” with the station, similar to a rail system.
  - Clean propulsion systems are available, such as hybridelectric and natural gas.
  - Some vehicles even have optical or magnetic guidance, enabling them to maneuver without a driver, as well as on-board electronic information displays.
  - Vehicle capacities vary greatly depending on the size and design. The largest vehicles have a maximum capacity of 300 passengers.
- BRT provides frequent, all day service. This service is depicted with simple, intuitive maps, not complicated bus schedules.
- BRT also makes it possible to eliminate many transfers that otherwise would be required with rail technology. This is because passengers can board BRT vehicles near their homes, and these vehicles can then access exclusive lanes to provide a direct trip to the final destination. With rail, a transfer is always required at a station.
- BRT also can provide passengers with the choice of express or local services. Most rail systems have only one track in each direction, making it impossible for trains to pass each other.

- Intelligent Transportation Systems (ITS) can track vehicle locations, control traffic signals, and provide vehicle arrival information. This information can also be provided directly to passenger cell phones.
- BRT can exceed the performance of even the best rail systems at a fraction of the cost.
  - To effectively compete for federal dollars, cities must develop cutting-edge, cost-effective transit systems. They must show the greatest value for the federal investment. Increasingly, this means finding alternatives to rail
  - In the US, a typical heavy rail system can cost \$200 million or more per mile to construct, and a typical light rail system can cost \$70 million per mile or more. By contrast, the most expensive BRT's cost around \$25 million per mile. Some very competitive systems have been built for significantly less. Currently, the Dulles Rail project costs are \$2.83 billion for the first 11 miles, or \$257 million per mile.
  - In fiscal year 2007, there were only two BRT projects in the Federal Transit Administration's annual report to Congress. In fiscal year 2008, there were ten. Many cities understand that if they want to be competitive, BRT is an excellent option.
  - Money to study establish a Bus Rapid Transit (BRT) system on I-66 outside the Beltway is included in the annual transportation spending bill approved by the House in July 2007. The bill provides \$500,000 for the I-66 study, which would complement a study approved in June by the Commonwealth Transportation Board for a multimodal study on I-66 inside the Beltway. Prince William County is not currently planning to participate in these studies.
- Implementing BRT is quicker than other transit options making relief something commuters can expect to see in the near term rather than waiting for the next generation. Road and heavy rail plans may take 10-30 years when a BRT design can be done in 3-5 years.

### **Key Point**

BRT has been referred to as “Metro on Wheels”, or “Better Rapid Transit.” It is the best option available to restore high quality transit service, attract people out of their cars, and fight global warming. BRT can be built in phases, providing almost immediate relief and offering cost-effective future expansion options. It also attracts transit oriented development.

### **Transportation Demand Management**

Transportation Demand Management (TDM) is a method of improving traffic conditions by reducing the demand for trips, rather than attempting to increase the roadway network. TDM is focused on changing the social behaviors of travelers, mainly by getting them to shift the way they travel to their destinations. There are other demand management techniques beyond mode choice, such as shifting vehicle occupancies or shifting times of travel for commuters, but the

general effect of all TDM strategies is to reduce trips on the roadway during the peak periods of travel.

Some common TDM strategies are:

- Including and improving transit infrastructure, such as providing frequent shuttle service to transit stations from high density areas, improved bus stops, shelters, and communication regarding bus status, and more convenient or direct routes
- Providing increased incentives for carpooling and vanpooling
- Subsidizing transit costs for employees or residents
- Allowing for flex-time work schedules and telecommuting options in order to reduced congestion at peak times
- Providing bicycle-friendly facilities and environments (including secure bike storage areas at work and transit centers, showers at work, and similar conveniences), as well as the provision of bike lanes and shared use paths
- Including or improving pedestrian-oriented design elements in developments and road designs, such as short pedestrian crossings, wide sidewalks and street trees
- Reducing the number of parking spaces or raising the cost of parking at destinations to deter using vehicles as a primary travel option

Transportation Demand Management is most effective when a combination of incentives for non-motorized single occupied vehicle (SOV) use and disincentives for SOV use are provided. TDMs need to be enforceable, and measures of effectiveness for the various strategies should be set up and regularly monitored.

### **Conclusions from Phase 1**

There are multiple ways to consider improving transportation in Prince William County by 2030, but no single simple solution to the problem. In addition, there is little value in trying to define alternatives by pitting one technology (Metrorail, light rail, Bus Rapid Transit, buses, cars, etc.) against another in a series of artificial tradeoffs.

All realistic solutions involve a mix of technologies (additional roads, transit, and other solutions), plus a significant improvement in the alignment of land use and transportation planning over the next 25 years.

The Mobility Committee plans to organize its Phase 2 deliverables around three alternatives that prioritize which transportation problem should be considered the highest priority to fix:

Alternative 1: concentrate new transportation investment on roads/transit designed to ***improve peak hour commuting to jobs***, including non-residents commuting into PW County to local jobs in PW County as well as residents commuting out of the county.

Alternative 2: concentrate new transportation investment on roads/transit/walkways designed to ***improve all-day and weekend travel within the county***

Alternative 3: concentrate new transportation investment on roads/transit designed to ***improve regional/interstate traffic passing through Prince William***

## Next Steps - Phase 2

*Phase 2 Alternatives Development:* At the start of its discussions in May, 2007, the Mobility Committee identified 30 specific problems of concern to the members. It then brainstormed some visions for "new and improved" transportation in 2030, including:

- Sufficient jobs to meet employment
- Water transportation options along the Potomac River
- Efficient, seamless, cost effective, multi-modal transportation system that meets the expectations of the County citizens
- Develop a structured mass transit and transportation plan that meets that county's resident requirements to the maximum extent possible
- Transportation malls-multimodal center, such as Pentagon (Metro bus, rail, slug, HOV)
- Eighty percent of elementary and middle school students walk or bike to school
- Multi-directional transportation system to meet regional needs
- Integrate across county boundaries

Starting in September, 2007, the Mobility Committee will elaborate on the alternatives for transportation priorities that were identified in Phase 1. The alternatives will be fleshed out into full alternatives, including examples of how each alternative might affect specific proposals in the current appendices for the Thoroughfare Plan, Mass Transit Plan, and Non-Motorized Transportation Plan.

For example, the mobility committee plans to look for ways to reduce costs, improve levels of service, and increase PRTC bus ridership by separating bus traffic from other vehicle traffic through the use of HOV lanes and dedicated bus lanes, improving infrastructure such as bus stations/shelters/commuter parking lots, and clarification of Transportation Oriented Development (TOD) and Mass Transit Node (MTN) guidance in the Comprehensive Plan.

However, full revision of those appendices will not occur until Phase 3, when new plans will be drafted after the Board of County Supervisors initiates a Comprehensive Plan Amendment based on a preferred alternative.

*Phase 2 Outreach:* As described in the charter for the Technical Update stage for the revision of the 2003 Comprehensive Plan, "The goal of the planning process is to create a common vision for the future of Prince William County through a proactive community planning effort that incorporates involvement of all stakeholders in a consensus building process and assures that all new development reflects the community's vision... The planning process seeks consensus on a clear vision for the future among the community, property owners, developers and the County."

The Mobility Committee's meetings are the first step in a multi-step public participation process.

The Mobility Committee meetings are open to the public and each meeting the Data Gathering phase of the committee meetings began with citizen time. However, meetings were not advertised and only the minimum public notice requirements were provided advising the public of the on-going effort. No citizens spoke during the committee meetings during Phase I.

The Planning Commission and Board of County Supervisors will hold public hearings on the Comprehensive Plan Update after preparation of a draft amendment updating the Transportation Chapter of the Comprehensive Plan. The Board of County Supervisors will also hold public hearings.

It is clear that stakeholders have not participated effectively to date in this process. To address this shortfall, the committee plans a special outreach effort to get the perspectives of county residents on the alternatives that will be developed in Phase 2.

In early Fall 2007, members of the committee will present the alternatives to various community groups, including the Chambers of Commerce, Committee of 100, Prince William Association of Realtors, and other clubs/organizations in the county. The community outreach will stimulate discussion and gather comments on the specific alternatives being proposed by the Mobility Committee. In addition, comments already made to the Futures Commission regarding transportation will also be reviewed.

*Phase 2 Recommendation:* The Mobility Committee will recommend one preferred alternative at the end of Phase 2.

Additional alternatives will be fully analyzed and presented as well, so the Planning Commission will have a full set of options to consider when developing its recommendation that the Board of County Supervisors initiate a Comprehensive Plan Amendment and trigger Phase 3.

### **Measures of Success**

The following criteria will help the Planning Commission determine if the Mobility Committee has performed according to expectations:

- Did the Mobility Committee identify the critical community concerns early in the decision process, so long-term transportation issues were clearly identified before solutions were recommended?
- Were relevant data and key documents (especially from county/state/regional/Federal and other organizations) considered fully before the committee developed its alternatives?
- Were all types of transportation choices evaluated fully, including different modes and incentives to reduce traffic demand, before proposing changes to existing transit and highway infrastructure?
- Were long-term social, environmental, safety, security, and financial impacts of the alternatives, as well as their capacity to move people and freight, identified clearly enough for interested citizens to provide constructive input during the public involvement process?
- Was public input documented and considered by the Mobility Committee before making its final recommendations on proposed additions/revisions to the Transportation Chapter?
- Were recent changes to state mandates incorporated in the final draft chapter, and the draft is consistent with other County, regional, and state transportation documents as well as the recommendations of the Land Use Committee?
- Did the Planning Commission and Board of County Supervisors find the alternatives and recommendations from the Mobility Committee to be valuable before making final decisions?
- Did the Mobility Committee consider appropriate policies of transportation funding, such as opportunities and constraints of transportation impact fees (as authorized in HB3202), before developing the alternatives?
- Did the committee develop a Mass Transit Plan? Thoroughfare Plan? Level of Service standards?

### **Schedule**

The new Transportation Chapter will be presented for consideration in 2008.

#### ***Phase 1, April 2007 through August 2007:***

Complete deliverables for Phase 1 and submit report to Planning Commission on Data Gathering and Analysis.

#### ***Phase 2, September 2007 through December 2007:***

Complete deliverables for Phase 2 and submit report to Planning Commission on alternatives in December, 2007.

***Phase 3, January 2008 through March 2008:***

After Planning Commission makes recommendation to Board of County Supervisors, and Board initiates a Comprehensive Plan Amendment based on a preferred alternative, Mobility Committee submits the Draft Transportation Chapter, implementing the preferred alternative, to Planning Commission.

***Phase 4, April 2008 through June 2008:***

Mobility Committee presents its proposal (complete with Mass Transit Plan and other components) to Planning Commission

**Deliverables Marking the End of Each Phase**

Phase 1 (Data Gathering and Analysis):

- key points from the review of previous Prince William County Comprehensive Plans, transportation chapters in the Comprehensive Plans of adjacent counties and cities, the 6-year and long-range transportation plans of county/regional/state transportation agencies, various techniques for modeling current and projected traffic congestion, and the review of projected changes in population and housing patterns
- documentation of public comments on data gathering and analysis

Phase 2 (Alternatives)

- summary of community ideas and preferences regarding long-term transportation planning
- assessment of key transportation planning options (i.e., "forks in the road" where the county has a choice in transportation planning), projecting long-term impacts for different options
- feasible alternatives for revising the current Transportation Chapter in the Comprehensive Plan, including appendices
- a recommendation by the Mobility Committee, with a clear explanation of why that alternative was preferred
- documentation of public comments on alternatives

Phase 3 (Draft Plan)

- updated Comprehensive Plan text with policies and strategies to manage demand for new transportation infrastructure and continued maintenance of existing infrastructure

- updated Comprehensive Plan text that is consistent with other county, state, and Federal plans and the Land Use Chapter, or has rationale for adopting inconsistent language
- updated Thoroughfare Plan, Mass Transit Plan, Bike Plan, and Non-Motorized Transportation Plan with narratives and maps showing specific proposed transportation improvements to meet current and future needs of county residents and others traveling through Prince William County
- updated Level of Service standards for transportation proffers
- documentation of public comments on draft plan

#### Phase 4 (Public Hearing)

- presentation of Mobility Committee proposals at workshop/public hearing of Planning Commission

#### **Meetings**

The Mobility Committee met roughly twice a month, starting on May 14, 2007. One entire day was dedicated to listening to presentations from local and state representatives of transportation-related agencies, including VDOT. In addition, members of the Land Use Advisory Committee and the Mobility Committee have often attended the sessions held by the other committee, in order to create a common understanding of the relationship between land use and transportation issues.

Our effort to gather data regarding transportation in Prince William County has, at times, resembled drinking water from a firehose. As the committee moves into the next phase, members will continue to analyze the vast amount of data already gathered.

The committee members have examined previous Prince William County Comprehensive Plans, reviewed the transportation chapters in the Comprehensive Plans of adjacent counties and cities, read the 6-year and long-range transportation plans of county/regional/state transportation agencies, explored the various techniques for modeling current and projected traffic congestion, considered projected changes in population and housing pattern.

The committee identified concerns regarding funding, including opportunities and constraints through HB3202, and recognized that Comprehensive Plan chapters are intended to provide a long-range vision. They are not intended to be constrained by short-term funding challenges, or to determine how individual projects will be financed.

In the next phase, we expect to work even more closely with the Land Use Advisory Committee. Both committees recognize the need to link land use and transportation alternatives, so the two committees can propose a consistent set of alternatives.

Coordinating the recommendations from both committees on future land use and transportation decisions should minimize the risk that the Planning Commission/Board of County Supervisors might provide incompatible direction to each committee based on separate Phase 2 reports. Consistent guidance is essential before trying to draft new chapters for Transportation and Land Use/Housing in Phase 3.

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